



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,535	01/31/2002	Kurt E. Spears	10012394 -I	3672

7590 01/18/2007
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

LEE, CHEUKFAN

ART UNIT	PAPER NUMBER
----------	--------------

2625

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/066,535

Applicant(s)

SPEARS ET AL.

Examiner

Cheukfan Lee

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-5, 16, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 16, 18, and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/18/2006.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date, _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: See Continuation Sheet.

1. Claims 1, 3-5, 16, 18, and 19 are pending. Claims 1, 16 and 18 are independent.
2. The indicated allowability of claims 1, 3-5, 16, 18, and 19 is withdrawn in view of the reference(s) to Washizu Yoichi (Japanese Application Publication No. 11-252322) (Applicant: Olympus Optical Co. LTD), cited by Applicant on September 18, 2006. Rejections based on the newly cited reference(s) follow.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-5, 16, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Application Publication No. 11-252322 (hereinafter referred to Washizu). This reference was cited by Applicant in the amendment filed on September 18, 2006. A machine translation of the reference is attached to this Office Action.

Regarding claim 1, Washizu discloses an image scanner comprising an array of photosensor (16) and a motor (22), moving the array (16) in two dimensions (see directions G→ and F ↑ in Fig. 5) in a plane substantially parallel to an image being scanned (D in Fig. 5) (Figs. 1 and 5-8, paragraphs 0035-0045).

The machine translation of JP 11-252322 is understood in the manner stated below.

As the machine translation of Washizu is understood, in summary, a linear array (16) is moved (in direction G→) to the right side region of area D to be scanned and scans the right side region in a forward direction (F↑) along the longitudinal axis of the shaft (18) (Figs. 5-7). At the end of the scan, array (16) is moved (in direction J←) to the left side region of D and scans the left side region of D in a backward direction (direction I↓) along the longitudinal axis of the shaft (18) (Figs. 7-8). The moving of the array (16) in the left-right directions (G and J) and the moving the array (16) in the forward and backward directions (F and I) are performed using a single stepping motor (22). The left-right movements are made possible using a gear (17) "fitted in with" the shaft (18), which rotates with the shaft (18) by a certain amount due to friction between the gear (17) and the shaft (18) until the sensor holder (12) engages with a wall (11f or 11g) of the carrier (11) and cannot be rotated further, while the shaft (18) continues to be rotated, moving the carrier (11) in the forward or backward direction (F or I). Both the shaft (18) and the gear (17) are moved by the single motor (22). See discussion below.

As understood, array (16) is supported in image sensor holder (12) having a rack (12c) arranged at the bottom of the holder (12). The sensor holder (12) and the rack (12c) are movably supported within a carrier (11) and movable within carrier (11) in the left-right directions (G and J) as shown in Figs. 5 and 7, so as to be positioned in either

the left side region or the right side region of scan area D. The carrier (11) is movably supported on shaft (18) and moves along shaft (18) in the forward or backward direction (F or I) as the shaft (18) is turned by the motor (22), as shown in Figs. 6 and 8.

The motor (22) drives output gear (21), which meshes with a gear (20) attached to an end of the shaft (18), rotating the shaft (18) and the gear (17) in the same direction, with the gear (17) rotated by the certain amount mentioned above to move the sensor holder (12) in the left or right direction until the sensor holder (12) engages a wall (11f or 11g) of the carrier (11).

The array (16) is moved in the forward and backward directions (F and I) and in the left and right directions (G and J) (Figs. 5-8) in the following manner.

As the motor (22) drives the shaft (18) to turn, the carrier (11), and thus the array (16) within the carrier (11), is moved in a forward or backward direction along the axis of the shaft (18). The right-left movements of the array (16) and the sensor holder (12) for the array (16) are made possible using the gear (17), which is "fitted in with" the shaft (18) and meshes with the rack (12c) at the bottom of the sensor holder (12) movable within the carrier (11), such that when the motor (22) rotates the shaft (18), the gear (17) turns with the shaft (18) due to the friction between the gear (17) and the shaft (18), until the sensor holder (12) "attaches" or engages either the right wall (11f) or the left wall (11g) of the carrier (11) (Figs. 5 and 7, respectively) and is stopped by the right wall (11f) or the left wall (11g) as the shaft (18) continues to rotate and move the carrier (11) along the axis of the shaft (18).

Therefore, Washizu teaches a motor (22) that moves the array (16) in two dimensions as claimed.

Described above is a "first operation" (first embodiment) of Washizu's invention.

In a "second operation" (second embodiment), Washizu employs a wire (37) and a pulley (43), instead of the gear (17), to move the image sensor holder (36) holding the array within the carrier (35) in the left-right directions ($G' \rightarrow$ and $J' \leftarrow$ directions in Figs. 12 and 14, and 13 and 15, paragraphs 0046-0066). The location of the shaft orientations of the pulley (43) is the same as that of the positioning structure of the gear (17) employed in the "first operation" (first embodiment) (see paragraph 0055). Thus, as the shaft (18) rotates, the pulley (43) also rotates by frictional force between the shaft (18) and the pulley (43) (paragraph 0056). Further, when the sensor holder (36) is moved to a right side or a left side within the carrier (35) in order to scan a right side region or a left side region of the scan area D', the sensor holder (36) is moved by a certain amount due to the frictional force between the shaft (18) and the pulley (43), until the holder (36) is stopped by the right stopper (44) or the left stopper (46), respectively, (as opposed to stopped by or engages wall 11f or wall 11g of the carrier 11 in the first operation described above), as the shaft continues to rotate to move the carrier (35) in the forward direction ($F' \rightarrow$) or the backward direction ($I' \leftarrow$) (Figs. 13 and 15). Therefore, in this second operation (second embodiment), the motor (22) also moves the array (16) in two dimensions as claimed.

Regarding claim 3, the stepping motor (22) is a type or rotational motor.

Regarding claim 4, in the second operation (second embodiment) of Washizu (paragraph 0046-0066) as described above, the wire (37) is a flexible drive member (Figs. 12-15, paragraphs 0053-0056). The array (16) in the sensor holder (36) is attached to the wire (37), the array (16) moving in a path defined by the wire (37).

Regarding claim 5, the motor (22) drives the flexible drive member (wire 37) as described above for the second operation.

Regarding claim 16, see discussion for claim 1. The motor (22) of Washizu meets the claimed "means for moving the photosensor array".

Method claims 18 and 19 are rejected for the same reasons as given for claims 1 and 3. See discussions for claims 1 and 3.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (571) 272-7407. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone

Art Unit: 2625

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Cheukfan Lee
December 20, 2006

Continuation of Attachment(s) 6). Other: Machine translation of Japanese reference JP 11-252322.